emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.

54. (Amended) A system having a light intensifier night vision imaging system wherein the improvement comprises:

B6 Cont.

at least one white light-emitting diode which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.

REMARKS

Claims 1-51 and 53-54 are pending in this application, as amended. Claim 52 has been canceled. Applicants have amended claims 1-2, 10-13, 15-32, 34-51 and 53-54 to more particularly point out and distinctly claim the invention. No new matter has been added.

Claim Rejections Under 35 U.S.C. § 102(b)

Rejection – Claims 1-7, 9 and 15

Claims 1-7, 9 and 15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Verney, U.S. Patent No. 4,779,942. The Examiner takes the position that Verney discloses at least one light emitting source of polychromatic white light with high radiant energy in the violet/blue wavelengths and with low residual energy in the red wavelengths band. Further, the Examiner purports that Verney also discloses the features in dependent claims 2-7 and 9. It is further the Examiner's position, with regards to claim 15, that Verney discloses illuminating a cockpit or an instruments panel where the light source comprises a white light-emitting panel.

Applicants respectfully traverse the rejection of claims 1-7, 9 and 15.

Present Invention

The present invention is directed to a combination of lighting means and a light intensifier nigh vision imaging system. The lighting means include a white light-emitting source having at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band. The lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

The present invention is also directed to a method to illuminate an aircraft instrument panel or an element capable of coming into a pilot's field of vision when the pilot uses a light intensifier night vision imaging system. The method includes the step of using, as illumination means, a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

The present invention is also directed to a method for retrofitting an aircraft lighting system comprising incandescent lamps so as the aircraft lighting system is compatible with a light intensifier night vision imaging system. The method includes the step of replacing at least part of the incandescent lamps with white-light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

The present invention is also directed to a method for retrofitting a system of position lights, landing lights, anti-collision lights or flight training lights including incandescent lamps, so as the system is compatible with a light intensifier night vision imaging system. The method includes the step of replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a

light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

The present invention is also directed to lighting means for aircraft lights, compatible with a light intensifier night vision imaging system, especially for position lights, landing lights, anti-collision lights or flight training lights. The lighting means include a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

The present invention is also directed to lighting means for an aircraft cockpit or instruments panel, compatible with a light intensifier night vision imaging system. The lighting means include a ramp of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

The present invention is also directed to a lighting system including means of lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range. The means of lighting in the visible range include at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths.

The present invention is also directed to a lighting system including a means of lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range. The means of lighting in the visible range include at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier

night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths.

Cited Reference - Verney

Verney discloses a night vision goggle (NVG) compatible red lighting in which the red light does not adversely affect the gain of the NVGs. The red light is made compatible for use with NVGs by using a filter over the source of light. The filter transmits about 80% or more of visible red light energy from about 360 nm to about 640 nm and inhibits the transmission of 99.9% of radiant energy within the goggle sensitive range about 720 nm. According to Verney, transmission of 80% or more of visible red light energy below about 640 nm provides adequate daylight readability, i.e., so the filtered red light can be viewed during the day without NVGs (see e.g., col. 4, lines 14-20). Further, transmission within the spectral range of the NVGs , i.e., 600 nm to 720 nm, allows the red light to be viewable through the NVGs. Verney notes though that adsorption of the remaining light energy above 720 nm is essential to prevent the loss of external viewing intensification of the NVGs. The filter or filtering medium is a combination of conventional interference coatings or adsorption dyes.

Claim 1

Claim 1, as amended, recites:

> A combination of lighting means and of a light intensifier night vision imaging system, wherein the lighting means comprise a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

Verney fails to disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Verney merely discloses a filter for a red light incandescent source which makes a red light that is compatible with NVGs. There is no disclosure in Verney about the use of any white light source compatible with NVGs.

Contrary to the Examiner's position, Fig. 4 of Verney merely demonstrates the percent transmission of the aforementioned red light filter and does not represent the spectrum of a particular white light source.

At best, Verney indicates that the filtered red light source is able to be used in the daylight without removing the filters, but the daylight use is not with NVGs. As mentioned at col. 1, lines 59-68, the prior art "flip-up" blue-green filters which made red warning lights compatible with NVGs needed to be flipped up (i.e., removed from the light source) during daytime use so that the pilot could see the red warning lights while not wearing NVGs. The disclosed device of Verney intended to overcome this problem by not needing to remove the red light filter during daylight use while not wearing NVGs (see col. 4, lines 14-20). But, Verney does not disclose any sort of white light source that is compatible with NVGs (i.e., that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths).

A claim is anticipated under 35 U.S.C. § 102 only if each and every element as set forth in the claim is found expressly or inherently described in a single prior art reference. Verdagall Bros. v. Union Oil Company of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) and MPEP § 2131. Furthermore, "the identical invention must be shown in as complete detail as is contained in the... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) and MPEP § 2131.

As discussed above, Verney does not disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths, as claimed in amended claim 1. It is, therefore, respectfully submitted that claim 1, as amended, is not anticipated by Verney. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 1 and dependent claims 2-7 and 9 should be withdrawn.

Claim 15

Claim 15, as amended, recites:

> Method to illuminate an aircraft instrument panel or an element capable of coming into a pilot's field of vision when the pilot uses a light intensifier night vision imaging system, comprising the step of using, as illumination means, a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

Similar to claim 1 discussed above, Verney does not disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths, as claimed in amended claim 15. It is, therefore, respectfully submitted that claim 15, as amended, is not anticipated by Verney. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 15 should be withdrawn.

Rejection – Claims 1, 2, 5-7, 9 and 15

Claims 1, 2, 5-7, 9 and 15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Task, U.S. Patent No. 4,580,196. The Examiner takes the position that Task discloses at least one light emitting source of polychromatic white light with high radiant energy in the violet/blue wavelengths and with low residual energy in the red wavelengths band. Further, the Examiner purports that Task also discloses the features in dependent claims 2, 5-7 and 9. It is further the Examiner's position, with regards to claim 15, that Task discloses illuminating a cockpit or an instruments panel where the light source comprises a white light-emitting panel.

Applicants respectfully traverse the rejection of claims 1, 2, 5-7, 9 and 15.

Cited Reference – Task

Task discloses night vision illumination that is compatible with night vision infrared equipment. The night vision illumination can be converted back to be a normal

illumination source. In particular, Task discloses retrofitting an aircraft cockpit 100 by replacing incandescent lamps (112, 114, 116) with an array of light emitting diode (LED) elements mounted on a portable substrate member 201 forming an LED assembly 201 (see Fig. 2). The LED assembly 201 includes a diffusing cover assembly 214 which is configured to diffuse the LED light output in a particular pattern, such as that required to replace particular lamps 112, 114, or 116. The LED assembly 201 further includes a tether cable 202 having an electrical connector 204 that is compatible with fixtures for the lamps 112-116, and the LED assembly 201 includes an attachment medium 216 such as Velcro®. Thus, the device of Task is intended to be temporarily and removably installed in place of the incandescent lamps 112-116 during use with NVGs 118. As shown in Fig. 3, the preferred LED for use in the LED array 201 outputs in the green or yellow-green spectrum having a spectral emission of between about 525 nm and about 620 nm (curve 308; col. 6, line 46 through col. 7, line 15; and col. 8, lines 6-14) which is less than that of the NVGs (curve 306).

Task only discloses using LEDs that output in the yellow-green spectrum. Fig. 3 only shows the response curve 310 for the (human) eye, the spectral emission 308 of a green or yellow-green LED, the spectral response 306 of NVGs 118 and the emitting curve 312 of an incandescent filament lamp 112-116.

Claim 1

Task also fails to disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light that do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Task merely discloses replacing an incandescent lamp with a temporary LED assembly that has green or yellow-green emitting diodes that are compatible with NVGs. There is also no disclosure in Task about the use of any white light source compatible with NVGs.

Task only discloses using LEDs that output in the yellow-green spectrum. In particular, Fig. 3 only shows the response curve for the (human) eye response curve 310, the spectral emission 308 of a green or yellow-green LED, the spectral response 306 of NVGs 118 and the emitting curve 312 of an incandescent filament lamp 112-116 which the LED assembly is intended to replace. Fig. 3 demonstrates, that in Task's device, the green or yellow-green LED

is compatible with the NVGs, while the conventional incandescent lamps are not. No other types of LEDs are disclosed in Task and no white light emitting devices are disclosed as being compatible with NVGs 118.

Thus, Task does not disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light that do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths, as claimed in amended claim 1. It is, therefore, respectfully submitted that claim 1, as amended, is not anticipated by Task. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 1 and dependent claims 2, 5-7 and 9 should be withdrawn.

Claim 15

Similar to claim 1 discussed above, Task does not disclose, teach or suggest a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths, as claimed in amended claim 15. It is, therefore, respectfully submitted that claim 15, as amended, is also not anticipated by Task. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 15 should be withdrawn.

Rejection – Claims 1-8, 10, 41-43, 46 and 51

Claims 1-8, 10, 41-43, 46 and 51 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Doughty *et al.*, U.S. Patent No. 5,851,063 (hereinafter, "Doughty"). The Examiner takes the position that Doughty discloses at least one light emitting source of polychromatic white light with high radiant energy in the violet/blue wavelengths and with low residual energy in the red wavelengths band. Further, the Examiner purports that Doughty also discloses the features in dependent claims 2-8, 10 and 46.

It is further the Examiner's position, with regards to claim 41, that Doughty discloses a ramp of white light-emitting diodes emitting a polychromatic white light with high

radiant energy in the violet/blue wavelengths and low residual energy in the red wavelengths band. Further, the Examiner purports that Doughty also discloses the features in dependent claims 42-43 and 51.

Applicants respectfully traverse the rejection of claims 1-8, 10, 41-43, 46 and 51.

Cited Reference – Doughty

Doughty discloses a system of LEDs having at least three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall "appearance" of white light for general illumination purposes. The device of Doughty only demonstrates that diode systems can emit white light.

Claim 1

Claim 1, as amended, recites:

> A combination of lighting means and of a light intensifier night vision imaging system, wherein the lighting means comprise a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest a combination of lighting means and of a light intensifier night vision imaging system. Doughty also fails to disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Doughty merely discloses a system of LEDs having at least three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall "appearance" of white light for general illumination purposes. The device of Doughty only demonstrates that diode systems can emit white light.

Further, the type of illumination system disclosed in Doughty is not compatible with NVGs (i.e., light intensifier night vision imaging systems) without filtering because the red

diode emits a wavelength around 625 nm (see Figs. 1-2). Even further, there is no disclosure, or even a suggestion, in Doughty about the use of NVGs in general.

As discussed above, Doughty does not disclose, teach or suggest combination of lighting means and of a light intensifier night vision imaging system, as claimed in amended claim 1. Doughy also does not disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths, as claimed in amended claim 1. It is, therefore, respectfully submitted that claim 1, as amended, is not anticipated by Doughty. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 1 and dependent claims 2-8, 10 and 43 should be withdrawn.

Claim 41

Claim 41, as amended, recites:

> Lighting system comprising means of lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range, wherein the means of lighting in the visible range include at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths. Doughty merely discloses a system of LEDs having at least three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light for general illumination purposes. Further, the type of illumination system disclosed in Doughty is not compatible with NVGs (i.e., light intensifier night vision imaging systems) without filtering because the red diode emits a wavelength around 625 nm (see Figs. 1-2). Furthermore, there is no disclosure, or even a suggestion, in Doughty about the use of NVGs in general.

As discussed above, Doughty does not disclose, teach or suggest at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths, as claimed in amended claim 41. It is, therefore, respectfully submitted that claim 41, as amended, is not anticipated by Doughty. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of amended independent claim 41 and dependent claims 42 and 51 which depend from claim 41, should be withdrawn.

Claim 31

Claim 31, as amended, recites:

> Method for retrofitting a system of position lights, landing lights, anti-collision lights or flight training lights comprising incandescent lamps, so as said system is compatible with a light intensifier night vision imaging system, comprising the step of replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. As mentioned above regarding claim 41, Doughty merely discloses a system of LEDs having at least three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light for general illumination purposes. Further, the type of illumination system disclosed in Doughty is not compatible with NVGs (i.e., light intensifier night vision imaging systems) without filtering because the red diode emits a wavelength around 625 nm (see Figs. 1-2). Furthermore, there is no disclosure, or even a suggestion, in Doughty about the use of NVGs in general.

As discussed above, Doughty does not disclose, teach or suggest replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white

light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths, as claimed in amended claim 31. It is, therefore, respectfully submitted that claim 31, as amended, is not anticipated by Doughty. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of amended dependent claim 46, which depends upon amended independent claim 31, should be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Rejection of Claims 9, 12, 14-15, 38-40, 44-45, 50 and 52

Claims 9, 12, 14-15, 38-40, 44-45, 50 and 52 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Doughty in view of Task. Regarding claim 9, it is the Examiner's position that Doughty discloses the claimed invention except for the light-emitting source being used for the instruments panel, but it is the Examiner's position that Task teaches that it is known to modify a light-emitting source for the instruments panel and that it would have been obvious to one having ordinary skill in the art to use the white light source of Doughty as taught by Task in order to illuminate an instrument panel. Similarly, regarding claims 12, 14-15, 38-40, 44-45, 50 and 52, it is the Examiner's position that Doughty discloses the claimed invention except for the light-emitting source being arranged on a printed circuit, a specific use of the light source on a cockpit or an instrument panel, means of lighting in the visible range, means of lighting in the infrared range, and a lighting position in the infrared range. But, it is the Examiner's position that Task teaches that it is known to modify an LED onto a printed circuit, use a light source to illuminate an instrument panel, means for lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range.

Applicants respectfully traverse the rejection of claims 9, 12, 14-15, 38-40, 44-45, 50 and 52.

Claim 1

As mentioned above, Doughty fails to disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier

night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm.

The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a light emitting source having the appearance of white light. By removing the red LED of Doughty, the emitted light would no longer have the appearance of a "white light" and would no longer have the disclosed structure.

In order to establish *prima facie* obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); MPEP § 2143.03. Further, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) and MPEP § 2143.01.

Doughty modified by Task fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, and that the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Thus, amended claim 1 is not *prima facie* obvious in view of Task modified by Doughty.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of claims 9, 12 and 14 which all depend from independent claim 1, should be withdrawn.

Claim 15

As mentioned above regarding claim 1, Doughty fails to disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm.

The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a light emitting source having the appearance of white light. By removing the red LED of Doughty, the emitted light would no longer have the appearance of a "white light" and would no longer have the disclosed structure.

Doughty modified by Task fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Thus, amended claim 15 is not *prima facie* obvious in view of Task modified by Doughty.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 15 and dependent claim 44 which depends from independent claim 15, should be withdrawn.

Claim 28

Claim 28, as amended, recites, *inter alia*:

> replacing at least a part of the incandescent lamps with white-light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest replacing at least a part of the incandescent lamps with white-light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure.

Thus, amended claim 28 is not *prima facie* obvious in view of Task modified by Doughty. Accordingly, Applicants respectfully request that the rejection under

35 U.S.C. § 103(a) of dependent claim 45 which depends from independent claim 28, should be withdrawn.

Claim 34

Claim 34, as amended, recites, *inter alia*:

> a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure.

Thus, amended independent claim 34 is not *prima facie* obvious in view of Task modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of dependent claim 50 which depends from independent claim 34, should be withdrawn.

Claim 38

Claim 38, as amended, recites, *inter alia*:

> a ramp of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

Doughty fails to disclose, teach or suggest a ramp of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure.

Thus, amended claim 38 is not *prima facie* obvious in view of Task modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 38 and dependent claims 39-40 which depend from amended independent claim 38, should be withdrawn.

Claim 52

Claim 52 has been canceled and accordingly, the rejection under 35 U.S.C. § 103(a) of claim 52 has been effectively rendered moot.

Rejection of Claims 11, 13 and 53-54

Claims 11, 13 and 53-54 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Doughty in view of Aikens *et al.*, U.S. Patent No. 5,031,080 (hereinafter, "Aikens"). Regarding claim 11, it is the Examiner's position that Doughty discloses the claimed invention except for a colored hood that is not filtered in the red wavelengths band, but it is the Examiner's position that Aikens teaches that it is known to modify the portable cockpit light assembly with or without filter the light source to form a colored indicator and that it would have been obvious to one having ordinary skill in the art to use the white light source of Doughty as taught by Aikens in order to provide a hood that is not filtered in the red wavelengths band. Regarding claims 13, it is the Examiner's position that Doughty discloses the claimed invention except the white light-emitting diode or the printed circuit is fixedly joined to a screw-in or bayonet type socket, but it is the Examiner's position that Aikens teaches that it is known to mount an LED onto the printed circuit where the circuit is fixedly joined to a screw-in or bayonet type socket. Further, regarding claims 53-54, it is the Examiner's position that Doughty discloses at least one light-emitting source of polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band and that Aikens discloses a light source that illuminates one of an indicator lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board. It is the Examiner's position that it would have been obvious to one having ordinary skill in the art to use the white light source of Doughty as taught by Aikens in order to provide a hood that is not filtered in the red wavelengths band.

The Applicants respectfully traverse the rejection of claims 11, 13 and 53-54.

Cited Reference - Aikens

Aikens discloses a portable incandescent light assembly for use in a cockpit including a filter (i.e., filter plate 17) which blocks a selected type of light, particularly infra-red light. The light assembly of Aikens includes a housing, a light source and a filter for filtering out

infrared light. The assembly also includes a mechanism for rotating the filter within the housing between a first position (a filtering position) in which the filter is disposed across a light output axis and a second position (a non-filtering position) in which the filter is disposed parallel to the light output axis.

Claim 1

As mentioned above, Doughty fails to disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Aikens discloses a mechanical assembly for use in aircraft cockpits that includes a filter which blocks a selected type of light such as infra-red light. If one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly without a filter having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. Alternatively, if one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly with a filter which would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing or filtering the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure of Doughty.

Doughty modified by Aikens fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, and that the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 1 is not *prima facie* obvious in view of Aikens modified by Doughty.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of claims 11 and 13 which depend from independent claim 1, should be withdrawn.

Claim 53

Claim 53, as amended, recites, *inter alia*:

> at least one light-emitting source of a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.

As mentioned above, Doughty fails to disclose, teach or suggest at least one light-emitting source of a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths. Aikens merely discloses a mechanical assembly for use in aircraft cockpits that includes a filter cap which blocks a selected type of light such as infra-red light. If one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly without a filter having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. Alternatively, if one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly with a filter which would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing or filtering the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure of Doughty.

Doughty modified by Aikens fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red

wavelengths band, and that the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 53 is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 53, should be withdrawn.

Claim 54

Claim 54, as amended, recites, *inter alia*:

> at least one white light-emitting diode which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.

As mentioned above regarding claim 53, Doughty fails to disclose, teach or suggest at least one light-emitting source of a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths. Aikens merely discloses a mechanical assembly for use in aircraft cockpits that includes a filter cap which blocks a selected type of light such as infra-red light. If one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly without a filter having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. Alternatively, if one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly with a filter which would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing or filtering the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure of Doughty.

Doughty modified by Aikens fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, and that the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 54 is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 54, should be withdrawn.

Rejection of Claims 16-36 and 47-49

Claims 16-36 and 47-49 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Doughty in view of Aikens or Task. The Examiner takes the position that Doughty in view of Aikens or Task discloses illuminating an aircraft instrument panel or an element capable of coming into a pilot's field of vision, without disturbing a light intensifier night vision imaging system, including the step of using an illumination means having at least one light-emitting source of polychromatic whit light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band. The Examiner cites other elements and/or features which are purportedly disclosed by the combination.

The Applicants respectfully traverse the rejection of claims 16-36 and 47-49.

Claim 15

Doughty fails to disclose, teach or suggest a white light-emitting source which emits a polychromatic white light that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Task discloses a yellow-green LED that is compatible with night vision goggles. If one were to modify Task to include the white light emitting source of Doughty, the result would be a temporary LED assembly having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. The combination (Doughty's light source in Task's cockpit lighting system) suggested by the Examiner is not permissible because it would teach away from the intent of the disclosure of

Task. Task specifically indicates that the use of a red LED element would have undesirable effects as compared to the disclosed yellow-green LED (see col. 3, lines 39-53). Additionally, removing the red LED of Doughty would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure.

Aikens discloses a mechanical assembly for use in aircraft cockpits that includes a filter which blocks a selected type of light such as infra-red light. If one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly without a filter having three multi-colored LEDs which emit in the blue, green and red wavelengths bands in order to obtain an overall appearance of white light that is not compatible with NVGs without filtering because the red diode emits a wavelength around 625 nm. Alternatively, if one were to modify Aikens to include the white light emitting source of Doughty, the result would be a mechanical lighting assembly with a filter which would teach away from the intent of the disclosure of Doughty which teaches combining blue, green and red LEDs to form a white light emitting source. By removing or filtering the red LED of Doughty, the emitted light would no longer be a "white light" and would no longer have the disclosed structure of Doughty.

Doughty modified by Task fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Doughty modified by Aikens fails to disclose, teach or suggest a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, and that the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible because it would teach away from the intent of the

disclosure of Doughty. Thus, amended claim 15 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of and dependent claims 16-27 which all depend from independent claim 15, should be withdrawn.

Claim 28

Doughty modified by Task fails to disclose, teach or suggest replacing at least a part of the incandescent lamps by white-light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Doughty modified by Aikens also fails to disclose, teach or suggest replacing at least a part of the incandescent lamps by white-light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 28 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 28 and dependent claims 29-30 which depend from independent claim 28, should be withdrawn.

Claim 31

Doughty modified by Task fails to disclose, teach or suggest replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if

the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Doughty modified by Aikens fails to disclose, teach or suggest replacing each incandescent lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 31 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 31 and dependent claims 32-33 which depend from independent claim 31, should be withdrawn.

Claim 34

Doughty modified by Task fails to disclose, teach or suggest a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Doughty modified by Aikens fails to disclose, teach or suggest a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 34 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly,

Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of amended independent claim 34 and dependent claims 35-36 and 47 which depend from independent claim 34, should be withdrawn.

Claim 38

Doughty modified by Task fails to disclose, teach or suggest a ramp of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the disclosure of Doughty. Doughty modified by Aikens fails to disclose, teach or suggest a ramp of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 38 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of dependent claim 48 which depends from independent claim 38, should be withdrawn.

Claim 41

Doughty modified by Task fails to disclose, teach or suggest at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths. Further, the combination of Doughty and Task is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Task and/or would teach away from the intent of the

disclosure of Doughty. Doughty modified by Aikens fails to disclose, teach or suggest at least one white light-emitting diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths. Further, the combination of Doughty and Aikens is not permissible, for all the reasons cited above regarding claim 15, because it would teach away from the intent of the disclosure of Doughty. Thus, amended claim 41 is not *prima facie* obvious in view of Task modified by Doughty and is not *prima facie* obvious in view of Aikens modified by Doughty. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of dependent claim 49 which depends from independent claim 41, should be withdrawn.

Other References

The Applicants have reviewed the additional references cited by the Examiner, but not applied as a basis for rejecting any of the claims. The Applicants submit that the claims as amended, distinguish over the additional references for at least the reasons cited above.

CONCLUSION

In view of the foregoing Amendment and Remarks, it is respectfully submitted that the present application, including claims 1-51 and 53-54, is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

JEAN-MARC WILHELM *et al.*

2/6/03 By: _____

(Date)

LESLIE L. KASTEN, JR.
Registration No. 28,959
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
One Commerce Square
2005 Market Street - 22nd Floor
Philadelphia, PA 19103-7086
Telephone: (215) 965-1200
Direct Dial: (215) 965-1290
Facsimile: (215) 965-1210
E-Mail: lkasten@akingump.com

LLK/JDS
Enclosures

Marked-Up Version of the Claims

1. (Twice Amended) A combination of lighting means and of a light intensifier night vision imaging system, [the lighting means being chosen so as not to disturb the light intensifier night vision imaging system,] wherein the lighting means comprise a white light-emitting source comprising at least [one] a white light-emitting [source of] diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, the lighting means do not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

2. (Twice Amended) The combination according to claim 1, wherein the white light-emitting source emits a polychromatic white light that furthermore has high radiant energy in the green/yellow and orange wavelengths bands with low residual energy in the red wavelengths band.

10. (Twice Amended) The combination according to claim 1, to form a colored indicator, especially a green, yellow or red indicator, wherein the light-emitting source [is] comprises a white light-emitting diode covered with a colored hood that is not filtered in the red wavelengths band.

11. (Twice Amended) The combination according to claim [10, to form a colored indicator,] 1, especially [a green] to form position indicators, [yellow] landing lights, anti-collision lights or [red indicator] flight training lights in an aircraft, wherein the light-emitting [diode is covered with] source comprises a [colored hood that is not filtered in the red wavelengths band] plurality of white light-emitting diodes arranged on a printed circuit.

12. (Twice Amended) The combination according to claim [10, especially to form position indicators, landing lights, anti-collision lights or flight training lights in an aircraft,] 11, wherein the [polychromatic white light source

Marked-Up Version of the Claims

comprises a plurality of white light-emitting diodes arranged on a] printed circuit is fixedly joined to a screw-in or bayonet type socket.

13. (Twice Amended) The combination according to claim [10,] 1, especially to illuminate a cockpit or an instrument panel, wherein the light-emitting source comprises a ramp of white light-emitting [diode or the printed circuit is fixedly joined to a screw-in or bayonet type socket] diodes.

15. (Twice Amended) [The combination according to claim 1, especially] Method to illuminate [a cockpit or an instruments panel, wherein the light source comprises a white light-emitting panel.] an aircraft instrument panel or an element capable of coming into a pilot's field of vision when the pilot uses a light intensifier night vision imaging system, comprising the step of using, as illumination means, a white light-emitting source comprising at least a white light-emitting diode or a white light-emitting panel which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band, that does not disturb the light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

16. (Twice Amended) [Method to illuminate an aircraft instrument panel or an element capable of coming into a pilot's field of vision, without disturbing a light intensifier night vision imaging system, comprising the step of using as illumination means at least one] Method according to claim 15, wherein the white light-emitting source [of] emits a polychromatic white light [with] that furthermore has high radiant energy in the [violet] green/[blue] yellow and orange wavelengths [band and] bands with low residual energy in the red wavelengths band.

17. (Twice Amended) Method according to claim [16,] 15, wherein the [polychromatic] white light [furthermore has high radiant energy] -emitting source has an emission spectrum comprising a dominant in the violet/blue wavelengths band

Marked-Up Version of the Claims

and a dominant in the green/yellow [and orange wavelengths bands with low residual energy in the red] wavelengths band.

18. (Twice Amended) Method according to claim [16,] 15, wherein the white light-emitting source has [an] a bichromatic-dominant emission spectrum [comprising] with a [dominant in the] violet/blue [wavelengths] chrominance [band] peak and a [dominant in] very wide range of chrominance from the green [/yellow wavelengths band] to the orange.

19. (Twice Amended) Method according to claim [16,] 15, wherein the white light-emitting source has [a bichromatic-dominant] an emission spectrum with a [violet/blue chrominance peak and a very wide range of chrominance from the green to the orange.] main peak wavelength of less than 492 nanometers, the main peak being a narrow, high-intensity peak, and a secondary peak wavelength ranging from 492 to 622 nanometers, the secondary peak being a wide, medium-intensity peak, with very low residual intensity at wavelengths of over 622 nanometers.

20. (Twice Amended) [Method according to claim 16, wherein the white light-emitting source has an emission spectrum with a main peak wavelength of less than 492 nanometers, the main peak being a narrow, high-intensity peak, and a secondary peak wavelength ranging from 492 to 622 nanometers, the secondary peak being a wide, medium-intensity peak, with very low residual intensity at wavelengths of over 622 nanometers] Method according to claim 15, wherein the white light-emitting source gives direct lighting.

21. (Twice Amended) Method according to claim [16,] 15, wherein the white light-emitting source gives [direct] ambient lighting or indirect lighting.

22. (Twice Amended) Method according to claim [16,] 15, wherein the white light-emitting source [gives ambient lighting or indirect lighting] is not filtered in the red wavelengths band.

Marked-Up Version of the Claims

23. (Twice Amended) Method according to claim [16,] 15, wherein the [white] light-emitting source [is not filtered in] of white light gives lighting guided in a translucent board of the [red wavelengths band] instruments panel.

24. (Twice Amended) Method according to claim [16,] 15, to form a colored indicator, especially a green, yellow or red indicator, wherein the white light-emitting source [of] comprises a white light [gives lighting guided] -emitting diode covered with a colored hood that is not filtered in [a translucent board of] the [instruments panel] red wavelengths band.

25. (Twice Amended) Method according to claim [16,] 15, especially to form position indicators, landing lights, anti-collision lights or flight training lights in an aircraft, wherein the white light-emitting source [is] comprises a plurality of white light-emitting [diode] diodes arranged on a printed circuit.

26. (Twice Amended) Method according to claim 25, [to form a colored indicator, especially a green, yellow or red indicator,] wherein the [light-emitting diode is covered with a colored hood that is not filtered in the red wavelengths band] printed circuit is fixedly joined to a screw-in or bayonet type socket.

27. (Twice Amended) Method according to claim [25,] 15, especially to [form position indicators, landing lights, anti-collision lights] illuminate a cockpit or [flight training lights in] an [aircraft] instruments panel, wherein the [polychromatic] white light-emitting source comprises a [plurality] ramp of white light-emitting diodes [arranged on a printed circuit] .

28. (Twice Amended) Method [according to claim 25, wherein the white light] for retrofitting an aircraft lighting system comprising incandescent lamps so as the aircraft lighting system is compatible with a light intensifier night vision system, comprising the step of replacing at least a part of the incandescent lamps with white-light-emitting [diode or the printed circuit is fixedly joined to a screw-] diodes emitting a

Marked-Up Version of the Claims

polychromatic white light with high radiant energy in [or bayonet type socket] the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting source is not filtered in the red wavelengths.

29. (Twice Amended) Method according to claim [16, especially to illuminate a cockpit or an instruments panel,] 28, wherein the [light source comprises a ramp of] white -light-emitting diodes furthermore have high radiant energy in the green/yellow and orange wavelengths bands with low residual energy in the red wavelengths band.

30. (Twice Amended) Method according to claim [16, especially to illuminate a cockpit or an instruments panel,] 28, wherein the light [source comprises a] emitted by the white light-emitting [panel] diodes is not filtered in the red wavelengths band.

31. (Twice Amended) Method for retrofitting [an aircraft lighting system] a system of position lights, landing lights, anti-collision lights or flight training lights comprising incandescent lamps, so as [the aircraft lighting] said system is compatible with a light intensifier night vision imaging system, comprising the step of replacing [at least a part of the] each incandescent [lamps by] lamp with a plurality of white light-emitting diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

32. (Twice Amended) Method according to claim 31, wherein the [polychromatic] white -light-emitting diodes furthermore [has] have high radiant energy in the green/yellow wavelengths band and the orange wavelengths [bands] band with low residual energy in the red wavelengths band.

Marked-Up Version of the Claims

34. (Twice Amended) [Method for retrofitting a] Lighting means for aircraft lights, compatible with a light intensifier night vision imaging system [of] , especially for position lights, landing lights, anti-collision lights or flight training lights, comprising [incandescent lamps, so as said system is compatible with a light intensifier night vision system, comprising the step of replacing each incandescent lamp by] a plurality of white light-emitting diodes arranged on a printed circuit, emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-emitting diodes are not filtered in the red wavelengths.

35. (Twice Amended) [Method] Lighting means according to claim 34, wherein the [polychromatic light furthermore has high radiant energy] printed circuit is fixedly joined to a screw-in [the green/yellow wavelengths band and the orange wavelengths band with low residual energy in the red wavelengths band] or bayonet type socket.

36. (Twice Amended) [Method] Lighting means according to claim 34, wherein the [light emitted by the] white light-emitting diodes [is not filtered] furthermore have high radiant energy in the green/yellow and orange wavelengths bands with low residual energy in the red wavelengths band.

37. (Twice Amended) Lighting means [for aircraft lights, compatible with a light intensifier night vision imaging system, especially for position lights, landing lights, anti-collision lights or flight training lights, comprising a plurality of] according to claim 34, wherein the white light-emitting diodes [arranged on] have an emission spectrum comprising a [printed circuit, emitting a polychromatic white light with high radiant energy] dominant in the violet/blue wavelengths band and [low residual energy] a dominant in the [red] green/yellow wavelengths band.

Marked-Up Version of the Claims

38. (Twice Amended) Lighting means [according to claim 37, wherein the white light] for aircraft cockpit or instruments panel, compatible with a light intensifier night vision imaging system, comprising a ramp of white light-emitting [diode or] diodes emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the [printed circuit is fixedly joined to a screw] red wavelengths band, that do not disturb a light intensifier night vision imaging system even if the white light-[in or bayonet type socket] emitting diodes are not filtered in the red wavelengths.

39. (Twice Amended) Lighting means according to claim [37,] 38, wherein the [polychromatic] white light-emitting diodes furthermore [has] have high radiant energy in the green/yellow and orange wavelengths bands with low residual energy in the red wavelengths band.

40. (Twice Amended) Lighting means according to claim [37,] 38, wherein the [polychromatic] white light [has] -emitting diodes have an emission spectrum comprising a dominant in the violet/blue wavelengths band and a dominant in the green/yellow wavelengths band.

41. (Twice Amended) Lighting [means for aircraft cockpit or instruments panel, compatible with a light intensifier night vision imaging] system[,] comprising [a ramp of] means of lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range, wherein the means of lighting in the visible range include at least one white light-emitting [diodes] diode emitting a polychromatic white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths.

Marked-Up Version of the Claims

42. (Twice Amended) Lighting [means] system according to claim 41, wherein the [polychromatic] white light-emitting diode furthermore has high radiant energy in the green/yellow and orange wavelengths bands with low residual energy in the red wavelengths band.

43. (Twice Amended) [Lighting means] The combination according to claim [41,] 1, wherein the polychromatic white light furthermore has [an emission spectrum comprising a dominant in the violet/blue wavelengths band and a dominant] high radiant energy in the green/yellow or orange wavelengths bands with low residual energy in the red wavelengths band.

44. (Twice Amended) [Lighting system comprising means of lighting in the visible range, means of lighting in the infrared range and switching means to make a choice between a lighting position in the visible range and a lighting position in the infrared range,] Method according to claim 15, wherein the [means of lighting in the visible range include at least one light-emitting diode emitting a] polychromatic white light [with] furthermore has high radiant energy in the [violet] green/[blue] yellow or orange wavelengths [band] bands [and] with low residual energy in the red wavelengths band.

45. (Twice Amended) [Lighting system] Method according to claim [44,] 28, wherein the polychromatic white light furthermore has high radiant energy in the green/yellow [and] or orange wavelengths bands with low residual energy in the red wavelengths band.

46. (Amended) [The combination] Method according to claim [1,] 31, wherein the polychromatic white light furthermore has high radiant energy in the green/yellow or orange wavelengths bands with low residual energy in the red wavelengths band.

Marked-Up Version of the Claims

47. (Amended) [Method] Lighting means according to claim [16,] 34, wherein the polychromatic white light furthermore has high radiant energy in the green/yellow or orange wavelengths bands with low residual energy in the red wavelengths band.

48. (Amended) [Method] Lighting means according to claim [31,] 38, wherein the polychromatic white light furthermore has high radiant energy in the green/yellow or orange wavelengths bands with low residual energy in the red wavelengths band.

49. (Amended) [Method] Lighting system according to claim [34,] 41, wherein the polychromatic white light furthermore has high radiant energy in the green/yellow [wavelengths band] or [the] orange wavelengths [band] bands with low residual energy in the red wavelengths band.

50. (Amended) Lighting means according to claim 37, wherein the polychromatic white light furthermore has high radiant energy in the [green/yellow or] orange wavelengths [bands] band [with low residual energy in the red wavelengths band].

51. (Amended) Lighting means according to claim 41, wherein the polychromatic white light furthermore has high radiant energy in the [green/yellow or] orange wavelengths [bands] band [with low residual energy in the red wavelengths band].

53. (Amended) A system having a light intensifier night vision [sub-system] imaging system wherein the improvement comprises:

at least one light-emitting source of a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.

Marked-Up Version of the Claims

54. (Amended) A system having a light intensifier night vision [sub-system] imaging system wherein the improvement comprises:

at least one white light-emitting diode which emits a polychromatic white light with high radiant energy in the violet/blue wavelengths band and with low residual energy in the red wavelengths band that does not disturb a light intensifier night vision imaging system even if the white light-emitting diode is not filtered in the red wavelengths and that illuminates one of an indictor lens, a position indicator, a landing light, an anti-collision light, a flight training light, a cockpit, an instrument panel and a translucent board.